United States
Department of
Agriculture

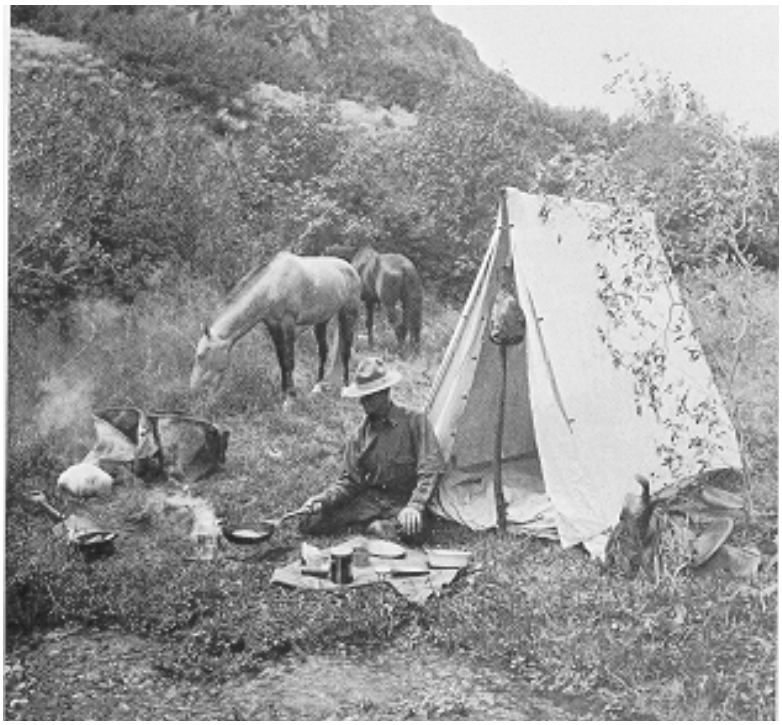
Forest Service

Rocky Mountain
Region

BIGHORN NATIONAL FOREST

Executive Summary for the Final Environmental Impact Statement

To accompany the Revised Land and Resource Management Plan



November 2005

Note to Readers

The Forest Service believes reviewers should be given notice of several court rulings related to public participation in the environmental review process. First, reviewers of Draft Environmental Impact Statements must structure their response to the proposal to make clear the reviewer's position and contentions [*Vermont Yankee Nuclear Power Corp. v. NRDC,* 435 US 519, 53 (1978)]. In addition, environmental objections that could be raised at the Draft EIS stage but are not raised until after completion of the Final Environmental Impact Statement may be waived or dismissed by the courts [*City of Angoon v. Hodel,* 803F.2d 1016, 1022 (9th Circuit 1986) and *Wisconsin Heritages, Inc. v. Harris,* 490. Supp. 1334, 1338 (E.D. Wis. 1980)].

Explanation of Acreages and Data Sources

The information in the tables, figures and maps in the following document was generated from a variety of sources, including several different Geographical Information System (GIS) software platforms, tabular databases, and data from a variety of models used in planning analysis. The acreage figures from the various sources do not match exactly in all cases. However, when added, acres of National Forest System lands (regardless of the source) are within acceptable margins of error.

BIGHORN NATIONAL FOREST

Final Environmental Impact Statement for the Revised Land and Resource Management Plan

Executive Summary

FINAL ENVIRONMENTAL IMPACT STATEMENT
EXECUTIVE SUMMARY

FOR THE
BIGHORN NATIONAL FOREST
REVISED LAND AND RESOURCE MANAGEMENT PLAN
NOVEMBER 2005

Located within Johnson, Sheridan, Big Horn, and Washakie Counties, Wyoming

Lead agency:	USDA Forest Service Rocky Mountain Region
Cooperating Agencies:	State of Wyoming Lake DeSmet Conservation District Powder River Conservation District Sheridan County Conservation District Washakie County Conservation District Shoshone Conservation District South Big Horn County Conservation District Johnson County Sheridan County Big Horn County Washakie County
Responsible Official:	Rick D. Cables, Regional Forester USDA Forest Service Rocky Mountain Region P.O. Box 25127 Lakewood, CO 80225
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Abstract

This is the summary for the Final Environmental Impact Statement (FEIS) which accompanies the Bighorn National Forest Revised Land and Resource Management Plan (Forest Plan). This summary presents the six alternatives developed, and their projected impacts, for programmatic management of the 1.1 million acres administered by the Bighorn National Forest.

In addition to this summary, the following documents are available on request, are available at area public libraries, or on our website, www.fs.fed.us/r2/bighorn:

- Revised Land and Resource Management Plan
- Final Environmental Impact Statement and Appendices
- Record of Decision
- Management Area Map for the Revised Plan
- CD ROM containing the final documents and maps
- CD ROM of the Revised Plan, Final Environmental Impact Statement, and associated documents

Overview of Planning Process and History

Forest plans are prepared in accordance with the 1976 National Forest Management Act (NFMA), the 1969 National Environmental Policy Act (NEPA), and other laws and regulations. The Bighorn National Forest Land and Resource Management Plan (1985 Plan) was issued in September 1985. NFMA regulations state that a forest plan should ordinarily be revised on a 10-year cycle or at least every 15 years (36 CFR 219.10). The Bighorn revision process is using the 1982 NFMA planning regulations, 36 CFR 219.

In November 1999, a Notice of Intent (NOI) to revise the 1985 Forest Plan was published in the Federal Register. The NOI included the proposed action, and comments received were used to refine issues and develop alternatives. Public meetings and field trips were held to gather additional input over the next several years. In addition, the revision 'steering committee', comprised of the revision cooperating agencies (State of Wyoming through the Governor's Office, State agencies, and county commissioners and conservation district board members from the four-county Big Horn

mountain area) met numerous times. The meetings resulted in a Draft Revised Plan and Draft Environmental Impact Statement being made available for review in July 2004.

Input received during the 90-day Draft comment period was used to correct errors in the draft documents, to amend the Draft preferred alternative into the Final selected alternative, and to inform the decision maker in selecting the Final alternative. The Regional Forester has documented the rationale for this decision in a Record of Decision (ROD).

Purpose of the Revised Plan

A forest plan provides guidance for all resource management activities on a National Forest.

- It establishes forestwide multiple-use goals and objectives (36 CFR 219.11(b)).
- It establishes forestwide standards and guidelines to fulfill the requirements of 16 USC 1604 applying to future activities and resource integration requirements in 36 CFR 219.13 through 219.27.
- It establishes management area direction (management area prescriptions) applying to future activities in a management area (resource integration and minimum specific management requirements) 36 CFR 219.11(c).
- It designates land as suited or not suited for timber production (16 USC 1604(k)) and other resource management activities such as rangelands, and recreation opportunities (36 CFR 219.14, 219.15, 219.20, and 219.21). In addition, it identifies lands available for oil and gas leasing and the associated leasing stipulations (36 CFR 228.102).
- It establishes monitoring and evaluation requirements (36 CFR 219.11(d)).
- It recommends the establishment of wilderness, wild and scenic rivers, and other special designations to Congress, as appropriate.

Forest plans estimate future management activities, but the actual amount of activities accomplished is determined by annual budgets and site-specific project decisions. The history of Forest Service budgeting during the 1985 Plan's implementation period has shown that budgets have not met the full Plan implementation level, so scheduled activities and actions were adjusted to match available funds and Congressional intent of appropriations acts. Monitoring of forest plan implementation, and evaluation of how budgets affect that implementation, may require the Forest to consider future forest plan amendments.

Reader's Guide to the Revised Plan and FEIS

Documents related to the forest plan revision include the Final Revised Plan and appendices, Final Environmental Impact Statement (FEIS), FEIS appendices, and a map package. The Final Revised Plan describes the overall management direction for the Forest. It includes the following chapters:

- Chapter 1 – Forestwide Direction
- Chapter 2 - Management Area Prescriptions
- Chapter 3 - Geographic Areas
- Chapter 4 - Monitoring and Evaluation
- Appendices A-C contain detailed information which may be helpful in understanding or implementing the plan.

The Final Environmental Impact Statement contains the analysis of effects for each of the alternatives considered in detail. It is the basis for the development of the Final Revised Plan and includes the following sections:

- Chapter 1 - Purpose and Need
- Chapter 2 - The Alternatives
- Chapter 3 - Affected Environment and Environmental Consequences
- Chapter 4 – List of Preparers
- Chapter 5 - Agencies, Organizations, and Individuals
- Appendices A-K contain detailed information which may be helpful in understanding the FEIS.

Between the Draft and Final Forest Plan and EIS

After considering public comments on the draft forest plan and DEIS, the interdisciplinary team, in collaboration with the steering committee, made changes to the draft documents. These are presented in the Revised Forest Plan and the effects are estimated in the FEIS.

Alternative D-FEIS, as described in the FEIS, is a modification of Alternative D described in the DEIS. Modifications were based on public comments, steering committee input, and additional analysis conducted between the draft and final. The basis for D-FEIS was alternative D-DEIS, with some aspects of other alternatives included, so the selected alternative is within the range of the alternatives analyzed in the DEIS.

Some of the most important changes between the Draft and Final documents are in the following areas:

- Biological Evaluation (BE) and Biological Assessment (BA)
- Recreation Use Data used National Visitor User Monitoring instead of a Forest-level dataset
- The timber analysis and the modeled outputs
- The economic and community analyses
- Management Area allocations in D-FEIS were revised from D-DEIS
- The way the Watershed Conservation Practice Handbook was incorporated
- The monitoring chapter envisions that semi-annual public monitoring and evaluation meetings will be conducted, in order to continue the collaborative dialog

Implementation of the Forest Plan

A forest plan provides the framework to guide the day-to-day land and resource management operations of a National Forest. The forest plan is a strategic, programmatic document; it does not make project level decisions. Those decisions are made after more detailed, site-specific analysis and further public comment. NFMA requires that resource plans and permits, contracts, and other instruments issued for the use and occupancy of National Forest System lands be consistent with the forest plan.

The following are some examples of project decisions that require more detailed environmental analysis:

- Timber harvesting and related activities, such as slash disposal and road construction.
- Range allotment management plans.
- Fish or wildlife habitat improvement projects.
- Watershed improvement projects.
- Developed recreation sites or trail construction

Resource inventories, actions plans, and schedules are not binding decisions and do not require additional environmental analysis at the project level.

Public involvement is a key part of implementing the forest plan. Monitoring and evaluation reports are available annually for public review, and semi-annual public monitoring meetings are anticipated.

Overview of the Bighorn National Forest

The Bighorn National Forest is located in the Big Horn Mountain Range in north central Wyoming (see following figure). The Forest contains 1,115,161 acres, which includes

7,491 acres of state and private land. The watersheds originating on the Forest drain into the Yellowstone River through the Big Horn, Tongue, and Powder Rivers. The Forest has a diverse mixture of land, water, plants, and animals. Elevations range from approximately 4,000 feet to 13,175 feet above sea level on Cloud Peak. The Big Horns are often characterized as a forested island situated between the High Plains (Powder River Basin) to the East, and the arid Big Horn Basin to the West. The north boundary of the Forest borders Montana and the Crow Indian Reservation. The Cloud Peak Wilderness (189,039 acres) is at the core of the mountain range.

Approximately 60% of the National Forest System acres are forested. Principle species include lodgepole pine, Engelmann spruce and subalpine fir. Douglas-fir, ponderosa pine, and limber pine are found at the lower elevations. Non-forested lands include grassy meadows, shrub lands, alpine tundra, and rocky areas. The Forest supports important populations of elk, mule deer, moose, and black bear. Many of the over 2,000 miles of streams and lakes support excellent fisheries.

The Big Horn Mountains are midway between Yellowstone National Park and Mount Rushmore National Memorial. Three highways, classified as Scenic Byways, cross the mountains. The Forest offers year-round recreation opportunities and administers over 500 special use permits including communication sites, reservoirs, easements, power lines, outfitter guides, recreation residences, campground concession operations and lodges/resorts. The Forest permits the grazing of approximately 28,000 cattle and 21,000 sheep. Through the end of 2001, after 16 years of implementation, the Forest has offered approximately 134 million board feet of timber and firewood. The mountains are an important water source for the surrounding agricultural lands and communities.

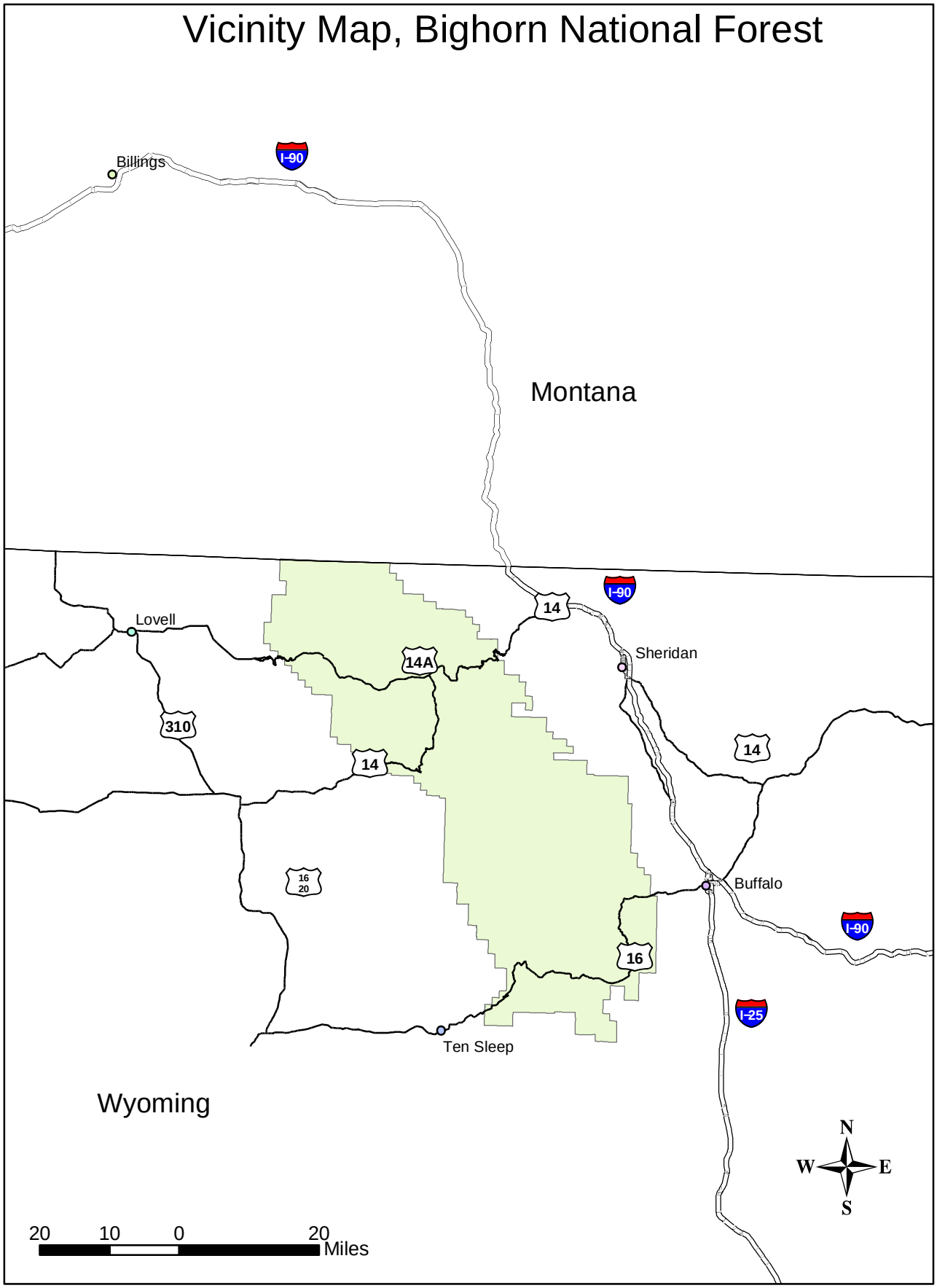
The Bighorn National Forest is subdivided into 3 Ranger Districts, with offices located in Sheridan, Buffalo, and Lovell, Wyoming. The Forest Supervisor's Office is co-located with the Tongue District Office in Sheridan.

The Forest lies within 4 counties – Big Horn, Johnson, Sheridan, and Washakie (see the following table and figure). Major towns include Lovell, Greybull, Buffalo, Sheridan, and Worland. Populations range from a high in Sheridan County of approximately 25,000 to about 7,000 in Johnson County. Economies are generally rural. Employment is concentrated in several major sectors including service, retail trade, and government. Mining, agriculture, and manufacturing are other important sources of income.

Table 1. Acres of National Forest System lands by county within the Bighorn National Forest.

	County				
	Big Horn	**Johnson**	**Sheridan**	**Washakie**	**Total**
Acres	351,160	326,881	393,627	36,003	1,107,671

Figure 1. Vicinity map of the Bighorn National Forest



Forest Plan Revision Topics

Revision topics are subjects where resource conditions, technical knowledge, or public perception of resource management have created a potential *"need for change."* Needed changes generally are important enough to affect large areas, change the mix of goods and services produced, and involve choices in management direction where there is no public consensus on the best course of action.

Revision topics were developed from a review of monitoring over a 13 year period from 1986 to 1998, results of an "Allowable Sale Quantity" (ASQ) Analysis in the early 1990's, inventories/assessments, Forest Service conservation leadership initiatives, laws/regulations, and comments received during the scoping period. The 5 major plan revision topics identified include:

- Biological and Habitat Diversity
- Timber Suitability and Management of Forested Lands
- Roadless/Wilderness
- Special Areas (e.g., Wild & Scenic Rivers, and Research Natural Areas)
- Recreation and Travel Management

Biological and Habitat Diversity

The Bighorn National Forest provides a wide diversity of habitats for many species. The Forest is naturally fragmented with a majority of the landscape occurring in timber cover types interspersed with riparian, shrub, and grassland cover types, as well as non-vegetated land including rock outcrops and cliffs. Species on the Forest include hundreds of vertebrate and invertebrate animals and higher plants. The Forest has identified several at-risk species categorized as threatened, endangered, sensitive, and species of local concern. In addition, species identified as Management Indicator Species and Demand species provide focus for plan design, analysis and monitoring purposes. The ecosystem processes and elements, including the variety of species and landscape features, provide Forest users and visitors with a broad range of opportunities and values that include sport, commercial, and viewing activities. Current science was used in developing management approaches and in effects analysis. Extensive documentation regarding species viability is summarized in the FEIS and is contained in further detail in the project record.

Human activities such as logging, grazing livestock, building roads, and suppressing fires have altered some of the natural processes and disturbances that would have otherwise shaped the Forest and its resources. These activities were taken into consideration in the development of the alternatives and the management direction associated with the Revised Plan (e.g. objectives and strategies, standards and guidelines, monitoring).

Timber Suitability and Management of Forested Lands

There are two primary items considered under this topic:

- **How to manage the forests of the Bighorn National Forest**? Forests change over time, whether man intervenes or not. Insects, disease, fire, and wind all affect forest conditions. To some degree, forest managers have the opportunity to direct change through timber harvest or prescribed fire for a variety of objectives, including wildlife habitat improvement, fire and fuels treatments, or timber production.

  The forests of the Bighorn National Forest are primarily lodgepole pine and spruce/fir (Engelmann spruce and subalpine fir), which are commonly referred to as the 'subalpine' forest. Lesser amounts of Douglas-fir, limber pine, and ponderosa pine occur. The subalpine forest is characterized by infrequent, large-scale disturbance events. Because of high road costs, small diameter trees, and having less than 50% of the forested area within the tentatively suited timber base, large-scale disturbances will continue to occur. Most of the opportunity for reducing fire risk, improving wildlife habitat and achieving other objectives will likely occur on the lands suited for timber harvest and in the wildland-urban interface.

- **Where specifically on the Bighorn National Forest should timber be harvested for the objective of providing raw material to the wood products industry?** This question is answered by the identification of suited lands, which varies considerably by alternative.

  Recent purchasers of Bighorn National Forest timber resources are primarily Wyoming Sawmills, with a mill in Sheridan, WY; RY Timber, with a mill in Livingston, MT; Cody Lumber, with a mill in Cody, WY; Cowboy timber treating, with a mill in Manderson, WY, and L&L Sawmill, operating in Buffalo, WY.

  The 1985 Forest Plan originally set the Allowable Sale Quantity at 149 million board feet for the first decade. That output was approximately achieved for the first four years of plan implementation. However, the 1987 Forest Plan monitoring and evaluation report noted that the ASQ output was not consistent with the standards and guidelines in the 1985 Forest Plan. Through 2004, the Bighorn has offered about 31% of the total programmed sawtimber output anticipated by the 1985 Plan. The balance of timber supplies for local mills has been provided by other National Forests, private, and state lands. Mill location and product configuration, lumber prices, energy costs, international imports, and alternative supply sources all influence the share of timber supplies provided by a single landownership. Consequently, the future demand for timber from the Bighorn National Forest cannot be characterized by a simple projection of historic trends. It can be stated with certainty, however, that current mill capacities far exceed the volume offered.

Recreation and Travel Management

The Bighorn National Forest is important as both a primary destination and an "overnight" stop for travelers heading to and from Yellowstone National Park and the Black Hills of South Dakota. Principal recreation activities include driving for pleasure, camping, hunting, fishing, hiking, horseback riding, and all-terrain vehicle (ATV) use. Many campgrounds are near capacity at peak times during the summer and finding remote locations for dispersed recreation (recreation occurring outside developed facilities) is becoming more difficult. Winter use (snowmobiling, snow play, Nordic skiing) is very popular. Projections of recreation demand show continued growth over the next several decades. Unmanaged recreation, primarily in the form of summer off-road travel, is one of the primary 'threats' to public land. Since 1985, changes in technology have introduced new recreational activities (e.g., mountain bikes, ATVs) and increased the capabilities of existing activities (snowmobiles).

There are 504 developed campsites in 37 campgrounds on the Forest, with capacity for 264,360 persons over the course of an average season. In recent years, when averaged across the entire camping season, campground use levels average between 26-28% of season-long capacity, with markedly higher use levels occurring during the peak use times of July and August.

There are approximately 3,000 dispersed sites inventoried outside of the Cloud Peak Wilderness. Approximately half that number is found within the Cloud Peak Wilderness.

There are 256 miles of nonmotorized trails outside the Cloud Peak Wilderness. Approximately 143 miles of trails are inside the Cloud Peak Wilderness. Pressure for backcountry recreation opportunities has leveled in recent years. As use increases, however; it is anticipated that the importance of primitive and semi-primitive recreational settings will continue to grow as destinations for hikers, horseback riders, and other primitive-sport recreationists.

There are approximately 432 miles of motorized summer trails, and almost 300 miles of snowmobile trails. When revision began, there were four areas where off-route summer motorized travel was permissible, commonly referred to as "C areas" (for their designation on the Forest travel map), amounting to almost 124,000 acres, or approximately 11% of the Forest. Resource damage due to uncontrolled motorized travel in these "C areas," when combined with the projected growth in motorized recreation, poses a major recreation management issue that was largely unanticipated in the 1985 Forest Plan. Subsequent site-specific travel decisions in the Woodrock and Clear Creek/Crazy Woman Creek areas have reduced the C areas remaining to one area totaling about 31,000 acres.

Much of the Bighorn National Forest is roaded. Popular activities associated with, or dependent on, roaded access are hunting, driving for pleasure, OHV riding, viewing wildlife, and dispersed camping. For this reason, the 1,544 miles of classified National Forest System roads on the Forest are highly valued by many members of the public.

Decisions about closing motorized system routes will not be made during forest plan revision. Travel management planning will continue to be conducted at the project level and incorporate the NEPA process including public involvement to address new route construction, reconstruction, decommissioning, or closures. This is already occurring with regard to the existing "C areas" to ensure that adequate and appropriate motorized recreation opportunities are maintained during the next planning period.

Conflicts between winter motorized and winter nonmotorized recreationists are increasing, primarily based on a common desire to experience the same forested settings concurrently. The same areas sought after for a quiet winter recreation experience are also those which are both desirable to and accessible by snowmobilers.

Roadless/Wilderness

Planning regulations (36 CFR 219.17) require the Forest Service to inventory, evaluate, and consider roadless areas for possible inclusion in the National Wilderness Preservation System.

The existing Cloud Peak wilderness totals 189,039 acres, approximately 17% of the Forest. The 2005 roadless area inventory on the Bighorn National Forest identified 494,790 acres--about 44% of the Bighorn NF--as meeting the roadless characteristics defined in Forest Service Handbook 1909.12. Eight areas were found to be capable and available for wilderness and were evaluated for proposed wilderness designation.

Part of the Forest Plan decision will be to determine objectives for existing roadless areas that are not recommended for wilderness. Depending on the alternative, the roadless areas may be allocated to Management Areas that will maintain their roadless characteristics or to Management Areas that could alter the roadless character.

Currently enjoined by the U.S. District Court of Wyoming, the Roadless Area Conservation Final Rule, 66 FR 3244, was published on January 12, 2001. On May 13, 2005, another set of final regulations were published in the *Federal Register* establishing procedures for protecting inventoried roadless areas on National Forest System land. The 2005 roadless regulations allow governors to petition to establish roadless regulations for their state. If the governor does not petition to establish roadless regulations for their state by the time stated in the 2005 roadless regulation, roadless area designation and management fall under the Forest Plan decision.

Special Areas

Wild and Scenic Rivers: In the 1985 Forest Plan, the Little Bighorn and Tongue Rivers were determined to be eligible as potential additions to the National Wild and Scenic Rivers System. In 1989 the Little Bighorn was recommended to Congress for official designation. As of Plan Revision, Congress has not acted on this recommendation. In the Revised Plan, both the Little Bighorn and Tongue Rivers remain in special management area allocation, their unique qualities safeguarded by Plan direction either in the wild (MA 1.5), scenic (MA 3.4) or recreation river (MA 4.4)

management areas or the Scenery Management area (MA 4.2). The Forest has five potential Wild and Scenic River candidates: the Little Bighorn River, Tongue River, South Rock Creek, Porcupine Creek, and Paintrock Creek. Each of the five rivers was incorporated in one or more plan revision alternatives.

Special Interest Areas are areas of local interest and are managed to protect or enhance their unusual characteristics. For this plan revision, a comprehensive analysis identified three potential special interest areas representing historical values. Two of these areas fall under Management Area 2.1 and the other is identified as MW. MW is labeled as Management Area 3.1 in the Draft Revised Plan.

Research Natural Areas (RNAs) are selected to provide a spectrum of relatively undisturbed areas representing a wide range of natural variability within important natural ecosystems and environments. RNAs may serve reference, educational, or research purposes. There are currently two RNAs on the Forest: Bull Elk Park and Shell Canyon. Ecological inventories and evaluations were done on eleven potential RNAs. Of those, four were included in the Revised Plan alternatives.

Development of the Alternatives

In November 1999, a Notice of Intent (NOI) to revise the 1985 Bighorn National Forest Plan was published in the Federal Register. The NOI contained a description of the Forest Service Proposed Action based on five major revision topics. Written comments on the NOI were received from the public and analyzed in alternative development.

A series of public meetings were held between October 2000 and January 2001 to solicit public input on revision issues. Newsletters and information posted on the internet generated additional public input. Based on public comment, the initial revision issues were modified as they appear above and in Chapter 1 of the DEIS.

The Forest Service Revision Interdisciplinary (ID) team used the issues to develop a range of alternatives and to define the major differences between the alternatives. The ID team developed maps for three initial alternatives. Using an iterative process, the ID team discussed these alternatives with various groups and added additional alternatives based on these discussions. American Wildlands, Biodiversity Associates, Bighorn Forest Users Coalition, The Wilderness Society, Wyoming Outdoor Council, and the Wyoming Chapter of the Sierra Club presented the "Citizen's Conservation Alternative" for consideration, and the ideas were incorporated into the alternatives by the ID team.

The alternative maps were then presented to the public for review at a series of meetings, in a newspaper insert, and on the Internet in January 2003. Based on public comment, the alternatives were modified again.

Six alternatives were presented to the Regional Forester and key Regional staff in February 2003. Based on the major revision topics addressed by each alternative, comparison of major differences between alternatives, responsiveness of the alternatives

to the Forest Service mission and applicable laws and regulations, the Regional Forester approved a range of five alternatives to analyze in detail for the Draft Environmental Impact Statement (DEIS). The Draft Revised Plan and DEIS were released for public comment in July 2004, with Alternative D identified as the preferred alternative.

Over 200 people attended six informational meetings and four comment meetings. Nearly 19,000 total written comments were received. The ID team reviewed and responded to the comments. Using Alternative D-DEIS as a template, the ID team held several public meetings with the steering committee, and numerous improvements to Draft Plan direction and management area allocations were made in response to the public comments. The resulting alternative is labeled D-FEIS. The FEIS summarizes the analysis and effects of 7 alternatives and a No Action alternative.

The Preferred Alternative

The responsible official, the Regional Forester of the Rocky Mountain Region, has identified Alternative D-FEIS as the preferred alternative in the FEIS. The Regional Forester's official decision and rationale for that decision are contained in the ROD.

Description of the Alternatives

Alternatives differ from each other in the way they respond to revision topics. They address changes to each component of the 1985 Plan: standards and guidelines, management area allocations, monitoring and evaluation, allowable sale quantity, oil and gas leasing availability, wilderness recommendations, identification of eligible wild and scenic rivers, and potential research natural areas.

For consistency with other Forests in the Rocky Mountain Region and surrounding regions, all alternatives (except the No Action alternative) include the new management area prescriptions. The following table summarizes the management area prescription categories in the Final Revised Plan. These categories are used in the pie charts below that summarize Alternatives A-E.

Table 2. Revised Plan Management area prescription categories.

Category	Included Management Areas
Category 1	Wilderness, Recommended Wilderness, Wild Rivers, Nonmotorized Recreation, Limited Winter/Summer Motorized
Category 2	Research Natural Areas
Category 3	Backcountry Recreation, Scenic Rivers, Plant and Wildlife Habitat
Category 4	Scenery, Dispersed Recreation, Recreation Rivers
Category 5	General Forest and Rangelands, Forest Products, Deer and Elk Winter Range, Plant and Wildlife Habitat, Dispersed Recreation and Forest Products
Category 8	Ski areas
MW	Medicine Wheel

The No Action Alternative – 1985 Forest Plan as Currently Implemented

The No Action Alternative reflects current forestwide direction. It meets the NEPA requirement (36CFR 219.12(f)(7) that a No Action Alternative be considered.

'No Action' means current management allocations, activities, and management direction found in the 1985 Forest Plan would continue. The No Action alternative estimates approximately the current level of outputs and types of Forest Service management activities. The fifteen amendments to the 1985 Plan, changes in law, regulation, Forest Service policy, and other factors that affect current management are reflected in this alternative. The No Action Alternative retains the 1985 Forest Plan goals and objectives, standards and guidelines, and management area prescriptions, as amended.

This alternative serves as a baseline for comparison for the other five "action" alternatives. After reviewing the "What's Broken with the 1985 Forest Plan" document for several years, it is apparent that the No Action Alternative is not desirable, for several reasons, including, but not limited to:

- Species and habitat management direction and monitoring protocols have only been slightly amended since the 1985 Forest Plan and are not the direction the Bighorn NF desires to continue for the next 10- to 15-year planning period.
- Travel management direction does not reflect the changing technology since the early 1980s and the associated increase in motorized recreation use.
- The current plan is not up-to-date on fire and fuels management direction.
- There is no distinction between standards and guidelines in the 1985 Forest Plan.

Because of these, and other reasons included in the project record, the Forest Supervisor determined that this was not an alternative that could guide the Bighorn National Forest for the next 10-15 year period.

Figure 2. Management area allocations for the No Action Alternative (the 1985 Forest Plan as currently being implemented).

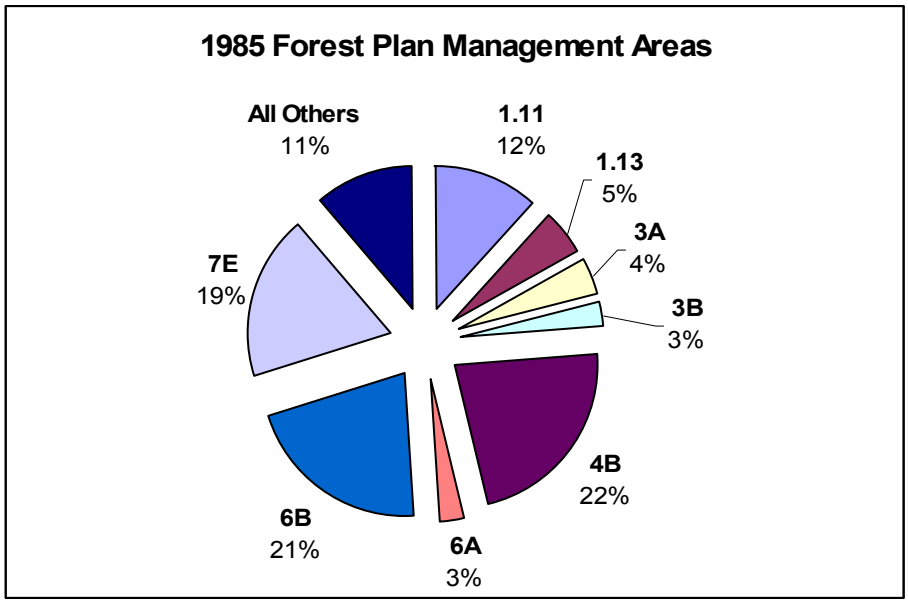


Table 3. Comparison of management areas in the 1985 plan and the Final Revised Plan.

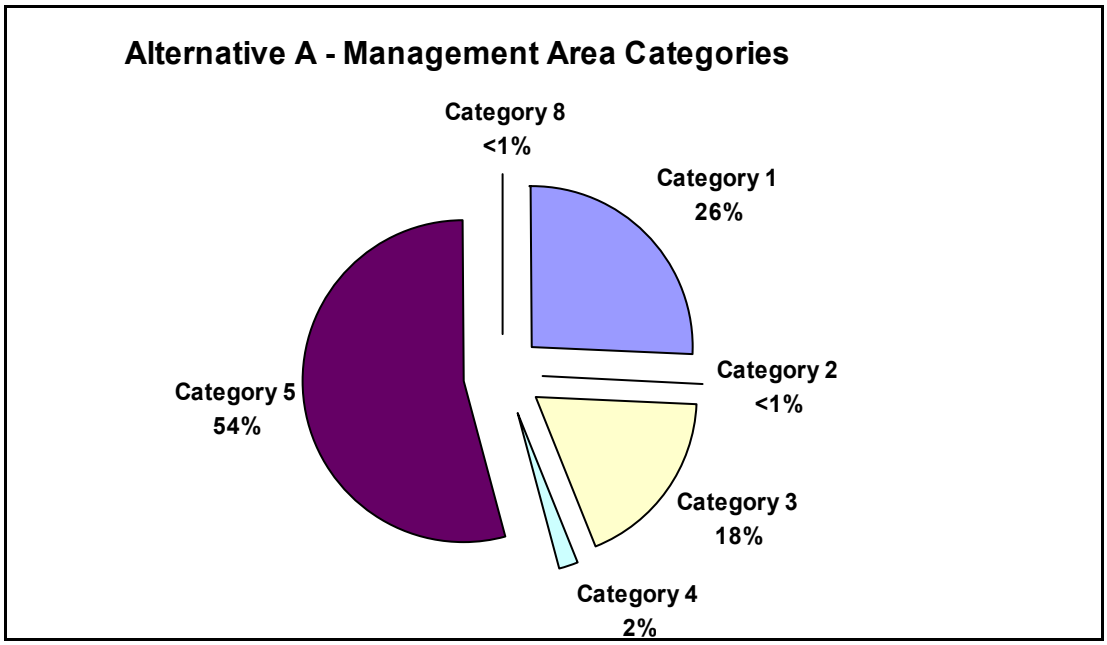
1985 Plan Management Area	Title	Revised Plan Management Area Category
1.11 and 1.13	Pristine and Semi Primitive Wilderness	Category 1
3A and 3B	Nonmotorized and Unroaded Recreation	Category 1
4B	Wildlife Habitat Management - Mgt. Indicator Species	Category 3 and 5
6A and 6B	Livestock Grazing	Category 5
7E	Wood Fiber Production	Category 5

Alternative A

In this alternative, the boundaries of 1985 Forest Plan management areas, as amended, remain the same. However, all other direction has been updated: the goals and objectives, the standards and guidelines, the management area direction, and the monitoring plan. This alternative compares the desirability of retaining the smaller management areas utilized in the 1985 Forest Plan with the larger management areas proposed under Alternatives B, C, D (both), and E.

Alternative A emphasizes active vegetation management, primarily through timber harvest and prescribed fire. Production of sawtimber, firewood, and other wood products and forage for livestock grazing is emphasized, as is managing to diversify wildlife habitat. A mix of recreation opportunities is provided, with a greater potential emphasis on motorized recreation compared to the majority of alternatives. The program focus is similar to the 1985 Forest Plan since the current management area emphases are retained.

Figure 3. Alternative A management area allocations by management area category.

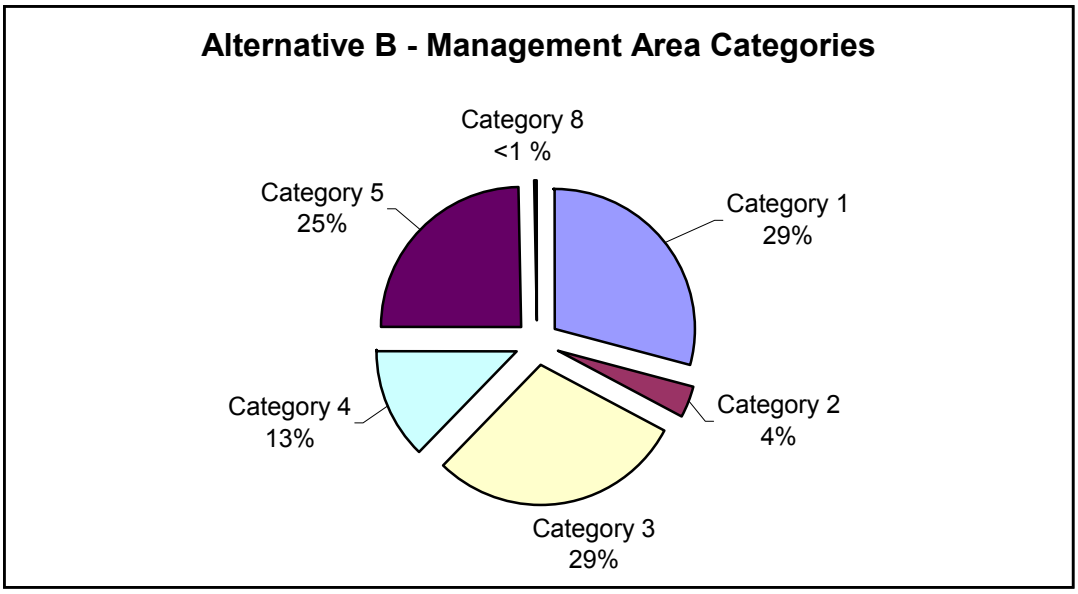


Alternative B

Alternative B was developed in response to public comment that the vegetation resources need active management to achieve biological and habitat diversity, while still providing a sustainable output of other forest uses. Relative to the other alternatives, this alternative places a higher priority on physical and biological resources than other uses.

Alternative B prioritizes management of vegetation types, including the use of timber harvest and fire, to improve wildlife habitat by allocating the most area to Management Area 3.5 compared to the other alternatives. Other areas of the Forest continue to be managed for wood products and livestock forage. This alternative explores the pros and cons of improving plant and animal habitats with less road construction. Along with Alternative C, it recommends the greatest number of miles for Wild and Scenic River classification.

Figure 4. Alternative B management area allocations by management area category.



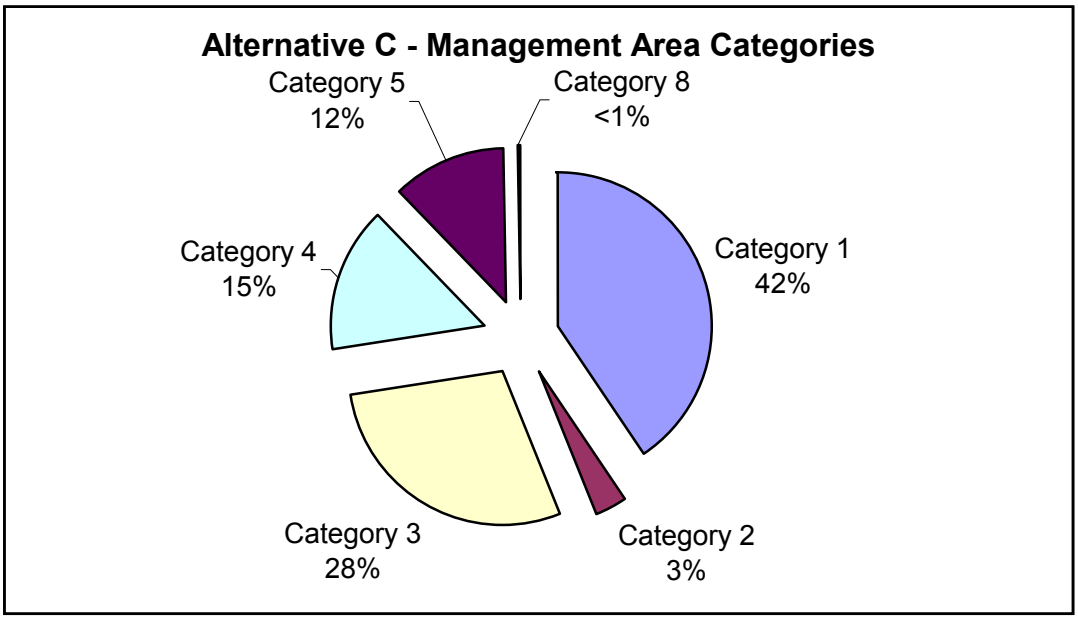
Alternative C

Alternative C was developed in response to public comment that the undeveloped land on the Forest should remain undeveloped to provide for nonmotorized opportunities, natural processes, and undeveloped recreational settings.

Alternative C emphasizes natural processes to sustain ecological systems, including fish and wildlife habitat. Lands identified for timber production are in a general forest management area (5.11), rather than in a timber production management area (5.13). The 5.11 areas are on land where timber harvest has occurred in the past, and the road system is in place.

Forested habitat successional changes will be dictated more by nature (fire, insects, and diseases) than in the other alternatives, which will result in large, contiguous blocks of either early or late successional stages. Unlike the rest of the alternatives, this alternative includes a Wilderness recommendation (MA 1.2) of 125,569 acres. It also (along with Alternative B) recommends the greatest number of miles of Wild and Scenic River classification.

Figure 5. Alternative C management area allocations by management area category.



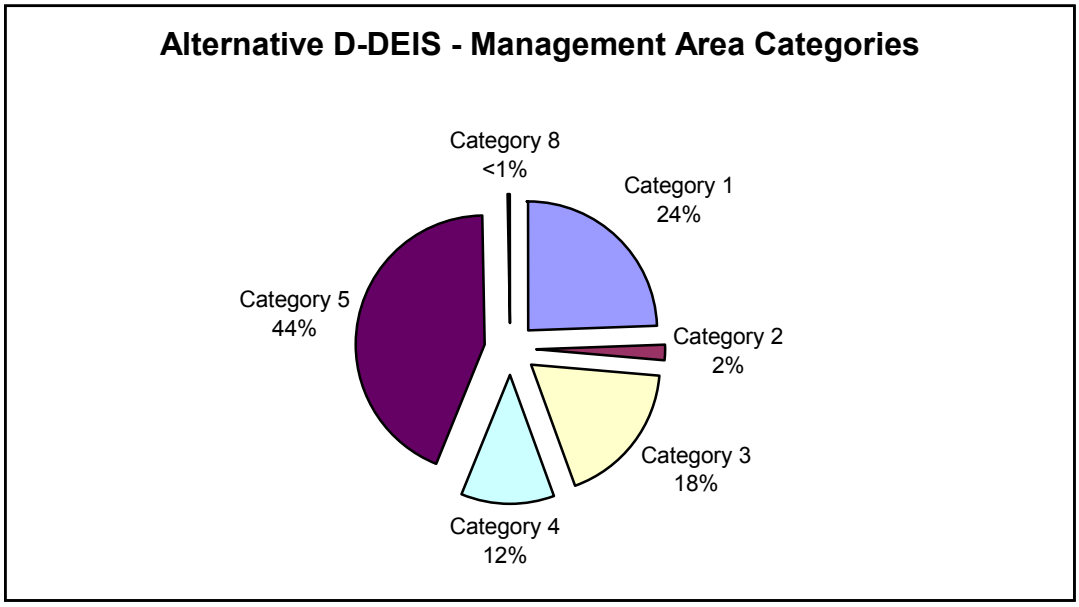
Alternative D-DEIS

Alternative D was developed by reviewing past forest plan monitoring reports and adjusting management area boundaries and forest plan direction to reflect the changes in human uses, technologies, and scientific information that has occurred since the mid-1980s.

This alternative emphasizes active vegetation management, primarily through timber harvest and prescribed fire; providing sawtimber, firewood, and other wood products; livestock grazing; and diversifying wildlife habitat. This alternative occupies the "mid range" in terms of overall mix of motorized and nonmotorized recreation opportunities.

A mix of wildlife habitat will be provided. In managed forested areas, a more even distribution of structural stages will be provided through active management. In other areas, successional pattern and habitats will be dictated by natural events, including insects, disease and fire, and larger contiguous blocks of similar habitat conditions will occur.

Figure 6. Alternative D-DEIS management area allocations by management area category.



Alternative D-FEIS

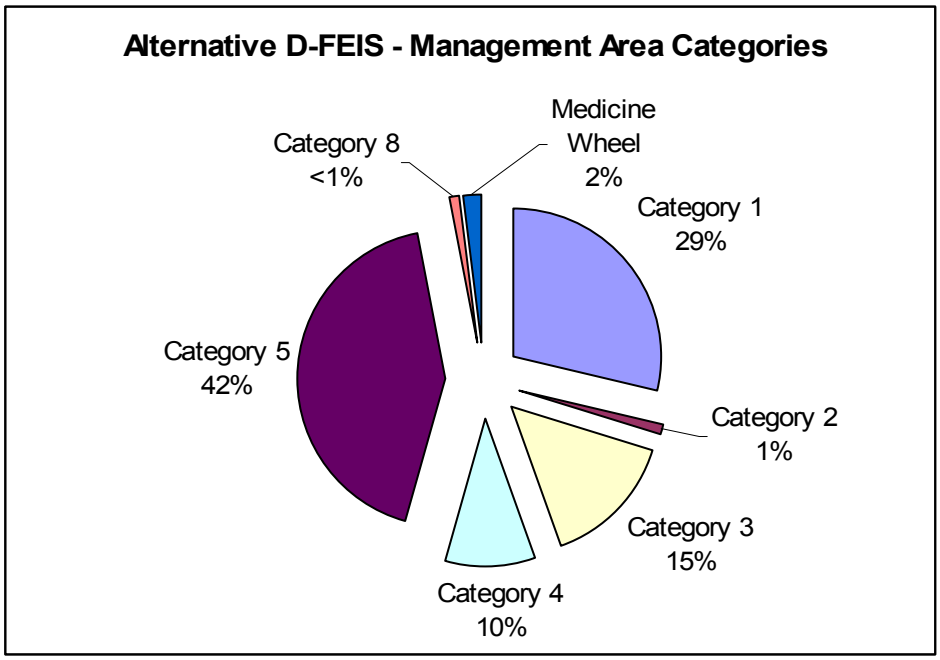
Alternative D-FEIS was developed by starting with D-DEIS as the base template, and then considering:

- Public input on the Draft Revised Plan and DEIS
- Cooperating Agency input
- Rocky Mountain Regional Office specialist input
- Additional effects analysis and evaluation

The leading issue that emerged through public comments on the Draft Plan was how much of the Bighorn NF should be allocated to maintaining roadless/backcountry/ wilderness values versus how much of the forest should be allocated to roaded/ motorized/timber harvest objectives. A few of the more significant changes between D-DEIS and D-FEIS include:

- Addition of Rock Creek as a Recommended Wilderness
- Addition of the lower Tongue River as recommended Wild/Scenic River
- Deletion of two Research Natural Areas
- Changes in Strategies, Standards and Guidelines to better reflect the best science, adaptive management principles and people's input

Figure 7. Alternative D-FEIS management area allocations by management area category.



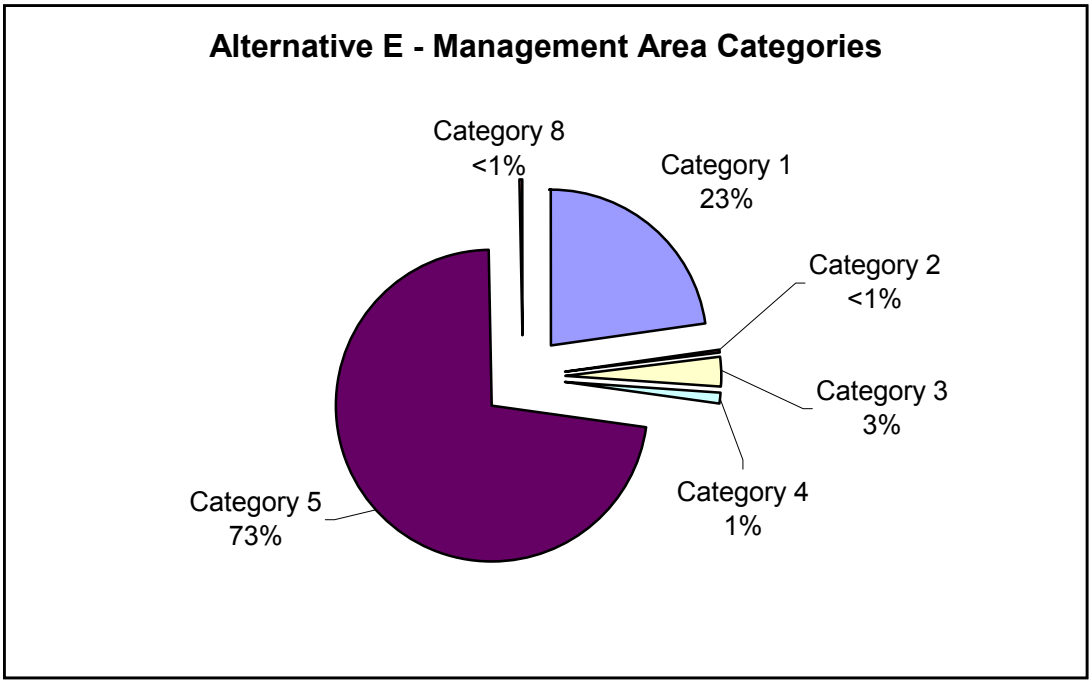
Alternative E

Alternative E was developed in response to public comment to provide a substantive timber output. Under this alternative, nearly all of the tentatively suited timber areas are made suited for timber production.

This alternative maximizes timber harvest opportunities. Forested vegetation desired conditions include minimal damage to commercial wood products from insects, disease, and fire. Wildlife habitat structural stages will occur in a relatively balanced distribution, with more early structural stages than in the other alternatives.

The potential for additional motorized recreation opportunities will be greatest in this alternative.

Figure 8. Alternative E management area allocations by management area category.



Alternatives Considered, but Eliminated from Detailed Study

At least 22 alternatives were considered and eliminated from detailed study during the planning process. These alternatives and the reasons for their elimination are described in Chapter 2 of the FEIS. These alternatives are considered when defining the 'range of alternatives' described in the Council of Environmental Quality's direction for implementation of the National Environmental Policy Act.

Comparison of Alternatives

The following tables in this section are designed to help the reader understand and compare the land allocations, the activities and outputs, and the environmental effects of the alternatives considered in detail. The tables focus on measurable differences among alternatives, summarizing more detailed information than is found in FEIS Chapter 3. Additional material and information on the alternatives and effects are in the project record, on file at the Forest Supervisor's Office in Sheridan.

Table 4. Summary of key land allocations: management area prescriptions in acres.

	Management Areas	Alt A	Alt B	Alt C	Alt D DEIS	Alt D FEIS	Alt E	1985 Forest Plan Nearest Equivalent	No Action
1.11	Pristine Wilderness	130,799	130,803	130,798	130,798	130,798	130,808	Same – per Plan Amendment 14, 8/1/98	131,222
1.13	Wilderness, Semi-primitive	61,098	61,094	61,100	61,100	61,100	61,090	Same – per Plan Amendment 14, 8/1/98	60,676
1.2	Areas Recommended for Wilderness	0	0	125,569	0	33,857	0		0
1.31	Backcountry Recreation, Nonmotorized	0	34,273	235	24,711	10,010	7,702	3A Semi-primitive nonmotorized recreation. 3B Primitive Recreation	78,993
1.32	Backcountry Recreation, Nonmotorized Summer with Limited Winter Motorized	58,943	42,342	71,209	36,939	59,937	27,472	3A Semi-primitive nonmotorized recreation. 3B Primitive Recreation	
1.33	Backcountry Recreation with Limited Summer and Winter Motorized Use	20,053	32,546	36,901	6,099	7,244	15,224		
1.5	National River System-Wild Rivers	13,217	20,871	22,082	10,251	15,632	10,420	10D Wild and Scenic River Corridors	13,217
2.1	Special Interest Areas (outside Wilderness)	89	20,004	17,024	0	0	0		0
2.2	Research Natural Areas (outside Wilderness)	1,618	21,190	21,188	21,190	6,574	1,618	10A Research Natural Areas	1,618
3.1	Special Interest Area, Medicine Wheel	61	20,863	20,865	20,863	0	20,863	10C Special Area	150
3.24	Riparian and Aquatic Ecosystem Management	931	0	0	0	0	0	9A Riparian and Aquatic Ecosystem Management	931
3.31	Backcountry Recreation, Year-round Motorized	25,464	118,242	193,877	82,733	66,679	12,719	2A Semi-primitive Motorized Recreation	25,455
3.4	National River System - Scenic Rivers (outside Wilderness)	17,110	5,815	4,817	2,887	6,188	1,470	10D Wild and Scenic River Corridors	17,110

	Management Areas	Alt A	Alt B	Alt C	Alt D DEIS	Alt D FEIS	Alt E	1985 Forest Plan Nearest Equivalent	No Action
3.5	Plant and Wildlife Habitat Management	156,448	178,587	95,325	94,823	88,585	0	4B Wildlife Management Indicator Species (unsuited timber)	148,064
4.2	Scenery	19,147	95,418	93,294	102,083	83,591	6,007	2B Rural/Roaded Natural Recreation	19,147
4.3	Dispersed Recreation	0	36,234	63,888	25,558	25,443	4,794		0
4.4	Recreation Rivers	0	10,901	10,900	74	3,457	0	10D Wild and Scenic River Corridors	0
5.11	General Forest and Rangelands – Forest Veg. Emphasis	93,160	89,657	92,484	170,454	80,049	190,161	4B Wildlife Management Indicator Species (suited timber)	88,206
5.12	General Forest and Rangelands – Rangeland Veg. Emphasis	263,636	72,155	19,557	182,092	149,226	51,428	6A Livestock Grazing Improve Forage Composition 6B Livestock Grazing Maintain Forage Composition	263,298
5.13	Forest Products	210,213	83,228	0	100,930	112,693	198,977	7E Wood Fiber Production	210,217
5.13.1	Forest Products, RACR 4(b) exceptions	0	0	0	0	0	0		0
5.21	Increase Water Yield, Vegetative Management	3,991	0	0	0	0	0	9B Increase Water Yield, Vegetative Management	3,991
5.4	Plant and Wildlife Habitat	0	0	0	0	59,275	134,374		
5.41	Deer and Elk Winter Range	27,680	28,213	21,325	28,852	34,865	29,638	5A Non-forested Wildlife Winter Range 5B Forested Wildlife Winter Range	28,037
5.5	Dispersed Recreation and Forest Products	0	0	0	0	47,961	197,710		
8.21	Water Impoundment – Twin Lakes, Tie Hack	141	0	0	0	0	0	9E Water Impoundment – Twin Lakes, Tie Hack	

	Management Areas	Alt A	Alt B	Alt C	Alt D DEIS	Alt D FEIS	Alt E	1985 Forest Plan Nearest Equivalent	No Action
8.22	Ski-based Resorts: Existing/Potential	1,217	2,580	2,580	2,575	990	2,540	1B Winter Sports Sites	1,217
MW	Medicine Wheel HPP	0	0	0	0	20,863	0	10C Special Area	
		0	0	0	0	0	0	1A Developed Recreation Sites	0
		0	0	0	0	0	0	4D Aspen Stand Management	13,368
		0	0	0	0	0	0	10C Preacher Rock Bog	0
	Total	1,105,016	1,105,016	1,105,018	1,105,012	1,105,017	1,105,015		1,104,981

Table 5. Comparison of alternatives.

	No Action	Alt. A	Alt. B	Alt. C	Alt. D - DEIS	Alt. D - FEIS	Alt. E
Timber Suitability and Management of Forested Lands							
Forested Acres	727,240	727,240	727,240	727,240	727,240	727,240	727,240
Tentatively Suitable – Acres	351,916	347,519	347,519	347,519	347,519	347,519	347,519
Suitable - Acres	262,062	262,359	117,756	57,323	175,070	185,277	307,901
Percent of suited acres scheduled for harvest over 150 years	---[1]	84%	87%	88%	88%	83%	79%
Annual ASQ – MMBF[2]	4.5	12.5	6.6	3.4	10.0	9.8	14.9
Total Sale Program Quantity[3] - MMBF		7.2	5.2	3.9	7.5	7.3	9.5
Harvested Acres, Suited Lands[4]							
Lodgepole pine Clearcut		1,009	471	213	705	691	1,133
Lodgepole pine Shelterwood		0	0	0	0	0	0

[1] The No Action alternative was not included in the timber model computer simulations.
[2] Sawtimber only, does not include Products Other Than Logs (POL).
[3] TSPQ includes harvest from suited lands (ASQ) constrained by budget estimates, plus sawtimber and POL from non-suited lands, plus firewood.
[4] All acre projections are annual, unless otherwise noted. No acres estimated for No Action since it was not modeled.

	No Action	Alt. A	Alt. B	Alt. C	Alt. D - DEIS	Alt. D - FEIS	Alt. E
Lodgepole pine Uneven-aged selection		595	200	115	346	348	787
Spruce/fir Shelterwood		54	129	44	148	201	116
Spruce/fir Uneven-aged selection		472	209	111	318	342	527
Douglas Fir Shelterwood		32	25	4	87	45	71
Douglas Fir Uneven-aged selection		132	31	11	115	74	136
Total Acres		2,294	1,066	498	1,719	1,700	2,772
Acres Treated: Aspen	10	10	20	10	20	50	20
Acres Treated: Forested Mechanical treatment (other than ASQ harvest)		100	400	100	400	300	600
Acres Treated: Forested prescribed fire		500	1,100	250	1,050	1,150	250
Acres Treated: Non-Forested prescribed fire		2,000	3,000	1,500	2,500	2,600	2,500
Total acres treated (other than ASQ harvest)		2,610	4,520	1,860	3,970	4,100	3,370
Total prescribed burning - Acres		2,500	4,100	1,750	3,550	3,750	2,750
New Road Construction –miles/year		1.7	0.8	0.4	1.2	0.6	2.1
Road Decommission – miles/year (primarily user-created routes)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Roadless/Wilderness							
Roadless Acres – RACR[5]	623,014	623,014	623,014	623,014	623,014	623,014	623,014
Roadless Acres – 2005 Inventory	494,703	494,703	494,703	494,703	494,703	494,703	494,703

[5] RACR = 2001 Roadless Area Conservation Rule

	No Action	Alt. A	Alt. B	Alt. C	Alt. D - DEIS	Alt. D - FEIS	Alt. E
Acres Remaining Roadless 2020[6]	34,000	441,620 (89%)	451,257 (91%)	471,076 (95%)	445,041 (90%)	449,491 (91%)	416,626 (84%)
Existing Wilderness	189,039	189,039	189,039	189,039	189,039	189,039	189,039
Proposed Wilderness	0	0	0	125,569	0	33,857	0
Special Areas							
Wild Rivers – miles	20.01	20.01	52.34	55.58	15.9	20.6	15.9
Scenic Rivers – miles	32.85	32.85	13.15	9.91	4.11	10.8	4.11
Recreational Rivers – miles	0	0	21.75	21.75	0	7.5	0
Research Natural Areas – number	2	2	6	6	6	4	2
Research Natural Areas – acres	1,618	1,618	21,190	21,190	21,190	6,574	1,618
MA 3.1 – Medicine Wheel – acres[7]	110	110	20,863	20,863	20,863	0	20,863
MA MW – Medicine Wheel - acres	0	0	0	0	0	20,863	0
MA 2.1 – Elephant's Foot – acres	0	0	2,980	0	0	0	0
MA 2.1 – Buck Creek Vees – acres	0	0	17,024	17,024	0	0	0
Recreation and Travel Management							
ROS[8] - Primitive	181,232	154,769	178,190	190,827	173,219	179,062	148,674
ROS – Semi-Primitive Non Motorized	278,105	185,277	223,212	262,605	175,920	201,279	96,785
ROS – Semi-Primitive Motorized	372,549	172,972	331,361	385,763	180,471	163,864	61,953
ROS – Roaded Modified	106,532	454,766	203,017	89,022	394,429	381,833	631,486
ROS – Roaded Natural	140,393	127,327	139,813	147,774	148,337	147,984	159,850

[6] Based upon past roadless management and Forest Plan implementation, and considering the Revised Plan direction for each Management Area, the ID team estimated a percentage, by management area, of how much roadless would remain in 2020. For example, in the most restrictive management areas, it was estimated that 100% of the inventoried roadless area existing today would remain in 2020, compared to more actively managed areas, where 70% of the inventoried roadless area existing today would remain in 2020. The complete calculations are in the project record.

[7] The existing Medicine Wheel National Historic Landmark is 110 acres. The acreage shown for the Medicine Wheel management area, 20,863 acres, is the GIS approximation for the Historic Preservation Plan area.

[8] Recreation Opportunity Spectrum

	No Action	Alt. A	Alt. B	Alt. C	Alt. D - DEIS	Alt. D - FEIS	Alt. E
ROS - Rural	32,544	9,906	29,422	29,025	32,641	30,994	6,269
% of NF open to Winter Motorized Travel - acres	72%	72%	68%	61%	69%	69%	72%
Open to Summer Off-Road/Off-Trail Motorized Travel - acres	123,585	0	0	0	0	0	0
Habitat and Biological Diversity							
Management Indicator Species – Suited Acres in Existing Elk Security	51,594	51,594	14,247	4,589	22,756	25,072	63,086
Natural Processes are Primary Forest Change Agent - % of Forested Lands[9]	64%	64%	84%	92%	76%	75%	58%
Other Topics							
Economics – Jobs (% change in 2010 compared to 2001)		+6.8%	+6.2%	+5.3%	+7.5%	+7.4%	+8.4%
Economics – Income (% change in 2010 compared to 2001)		+8.6%	+7.0%	+5.3%	+9.4%	+9.2%	+11.5%
Grazing – # of Active Allotments	86	86	86	86	86	86	86
Grazing – Permitted AUMs	108,835	108,835	108,835	108,835	108,835	108,835	108,835

[9] This percentage is the % of unsuited forested lands for each alternative. For alternative A, for example, there are 271,895 suited acres out of 727,240 total forested acres, or 37% of the forested area is suited, which is where active timber management is most likely to occur. Therefore, on 63% of the forested area, natural processes will be more likely to be the dominant disturbance agent.